

***Proceedings of the Symposium on Condensed Matter Physics held at the Indian Association  
for the Cultivation of Science, Jadavpur, Kolkata-700 032 during December 4–6, 1999.  
[Birth Centenary Celebration of Professor K S Krishnan]***

***Foreword***

***Invited Talks***

**Nuclear magnetic resonance and bulk magnetism**

**R VIJAYARAGHAVAN**

**Velocity measurements at the metamagnetic transition in  $\text{UPt}_3$**

**J FELLER, D DASGUPTA, D G HINKS, J B KETTERSON**

**AND BIMAL K SARMA**

**Magnetism Department at IACS : Krishnan's Creation**

**C K MAJUMDAR**

**Electronic and vibronic interactions in the mixed valence dimers**

**S M OSTROVSKY, K NAG AND W HAASE**

**Hopping conduction in vanadium and iron tellurite glasses**

**H SAKATA**

**Electron magnetic resonance in doped colossal magnetoresistive manganites**

**A I SHAMES, E ROZENBERG, G GORODETSKY, W H MCCARROLL**

**AND M GREENBLATT**

***Contributed Papers***

**Low-temperature minimum of resistivity and magnetoresistance in ceramic Manganites :  
an intergrain tunneling model *versus* experiment**

**M I AUSLENDER, E ROZENBERG AND G GORODETSKY**

**Ultrasonic attenuation changes near the superconducting and melting transition  
temperatures in a twinned  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$**

**D DASGUPTA, J R FELLER AND BIMAL K SARMA**

**Collective excitations in aligned carbon nanotube superlattices**

**P LONGE AND S M BOSE**

**Up-conversion luminescence in  $\text{Er}^{3+}$  and  $\text{Yb}^{3+}$  doped  $\text{YOCl}$  phosphors**

**ARCHANA MISHRA, R K PANDEY, D P BISEN AND B P CHANDRA**

**Microwave dielectric properties of  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$  relaxor ferroelectrics**

**J VENKATESH, V SUBRAMANIAN AND V R K MURTHY**

**The role of praseodymium in  $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_7$  high temperature superconducting compounds**

**B N DOLE, R R KOTHAWALE AND S S SHAH**

**Optical and infrared studies of  $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$  thin film**

**C B SAMANTARAY, A DHAR, S K RAY AND M L MUKHERJEE**

**Cation distribution study of  $\text{Nd}^{3+}$  substituted Zn–Mg spinel ferrites by structural refinement method**

**B P LADGAONKAR, P N VASAMBEKAR AND A S VAINGANKAR**

**Magnetic ordering in  $\text{La}_{0.67}\text{Ca}_{0.33}\text{Mn}_{0.9}\text{Fe}_{0.1}\text{O}_3$**

**S M YUSUF AND M SAHANA**

**Investigation of electrical and dielectric properties of “Modified” iron titanates**

**M A MADARE AND S V SALVI**

**Electrical behaviour of molybdenum substituted  $\text{Ba}(\text{Fe}_{0.5}\text{Nb}_{0.5})\text{O}_3$  perovskite**

**N P TENDOLKAR, M A MADARE AND S V SALVI**

**Carrier transport at the junction of tandem solar cells**

**N PALIT, A DASGUPTA, S RAY AND P CHATTERJEE**

**Effect of annealing on the structural and optical properties of SILAR grown  $\text{Cu}_x\text{S}$**

**S D SARTALE AND C D LOKHANDE**

**Magnetism in a new series of high-energy-density magnetic materials of amorphous alloys**

**S RAM**

**Effect of series resistance and standard deviation on the nonlinear behavior of I–V characteristics in metal/conducting polymer Schottky diode**

**S BANDYOPADHYAY AND S K SEN**

**Possible co-existence of superconductivity and magnetism in heavy-fermion systems**

**SULAGNA CHAKRABARTI AND R L SARKAR**

**Resistance change during cyclic hydrogen charging and discharging in  $\text{LaNi}_5$  thin films**

**BABITA DEVI AND I P JAIN**

**Magnetic and heat capacity studies of a molecule-based material  $\text{NBu}_4[\text{Fe}^{\text{II}}\text{Fe}^{\text{III}}(\text{ox})_3]$**

**ASHIS BHATTACHARJEE, YUJI MIYAZAKI, RALF FEYERHERM, MICHAEL STEINER  
AND MICHIO SORAI**

**Site preferences for cobalt and cobalt-titanium in substituted barium ferrites**

**CHANDAN UPADHYAY, DAVENDRA KUMAR RAI, H C VERMA  
AND JITENDRA KUMAR**

**p-type microcrystalline silicon films prepared by VHF-PECVD technique**

**TAPATI JANA, ARUP DASGUPTA AND SWATI RAY**

**Granularity effect on microwave surface resistance in high- $T_c$   $\text{Yb}_2\text{Cu}_3\text{O}_{7-x}$  bulk and thin film superconductor**

**RAM SWARUP AND A K GUPTA**

**Study of Jahn-Teller and vibronic mixing interactions in  $T_{1u}$  and  $T_{1g}$  levels of  $\text{C}_{60}$  in icosahedral symmetry**

**R RAI**

**AC-conductivity of lead-bismuth-titanate glasses**

**D K BURGHATE, V S DEOGAONKAR, (MISS) S V PAKADE  
AND S P YAWALE**

**EPMA, Optical, EPR and IR spectral studies of prehnite mineral**

**S NARASIMHA REDDY, P S RAO, R V S S N RAVIKUMAR  
AND B J REDDY**

**Preparation of aluminum doped zinc oxide films by sol-gel method : thermoelectric power and Hall voltage measurements**

**G K PAUL, S BANDYOPADHYAY AND S K SEN**

**Phase transformations in porous  $\text{Al}_2\text{O}_3$  ceramic nanoclusters**

**S RAM AND S RANA**

**Photoplastic effect in coloured alkali halide crystals**

**B P CHANDRA, R K PANDEY AND RASHMI JAIN**

**Low temperature resistance of quasi one-dimensional wires**

**RAISHMA KRISHNAN AND VIPIN SRIVASTAVA**

**Preparation and study of  $\text{Cu}_2\text{O}$  thin films deposited by the dip technique**

**SEKHAR C RAY**

**Characterization of DC magnetron sputtered indium oxide films**

**B RADHA KRISHNA, T K SUBRAMANYAM, B SRINIVASULU NAIDU  
AND S UTHANNA**

**Single crystal EPR studies on low dimensional ferromagnet cyclohexylammonium copper bromide**

**SARMILA DATTA, A K PAL AND DIPALI BANERJEE**

**Anisotropic Heisenberg exchange in a 3-D copper compound**

**SARMILA DATTA AND A K PAL**

**$^{57}\text{Fe}$  Mössbauer studies on Ni-Mo system in the critical region**

**D DAS, P K MUKHOPADHYAY, G D MUKHERJEE, S N CHINTALAPUDI  
AND A MOOKERJEE**

**Effect of Cr doping on the transport properties of  $\text{La}_{0.5}\text{Pb}_{0.5}\text{Mn}_{1-x}\text{Cr}_x\text{O}_3$**

**ARITRA BANERJEE, B K CHAUDHURI AND E ROZENBERG**

**Dielectric and piezoelectric properties of  $\text{PbTiO}_3/\text{PVDF}$  and  $\text{BaTiO}_3/\text{PVDF}$  composites**

**K L YADAV, AMARJEET K NARULA, R D P SINHA, RAMADHAR SINGH  
AND S CHANDRA**

**On the deuteration induced phase transitions in  $(\text{NH}_4)_2\text{PbCl}_6$  type crystals with pseudospin-lattice coupled mode model and using statistical Green's function technique**

**M KARAR, B K CHAUDHURI, T PUROHIT AND W HAASE**